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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/705,955	11/13/2003	Masaru Kuribayashi	Q78397	6712

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EXAMINER	
SMITH, TYRONE W	

ART UNIT	PAPER NUMBER
2837	

DATE MAILED: 09/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/705,955	KURIBAYASHI ET AL.	
	Examiner	Art Unit	
	Tyrone W. Smith	2837	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *07 June 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-11* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-11* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *6/8/05*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-9 rejected under 35 U.S.C. 103(a) as being unpatentable over Obayashi et al (6119247) in view of Grassl et al (5014336).

Regarding Claims 1, 2 and 8-9. Obayashi discloses a drive control apparatus, which includes a rotary machine (Figure 1 item 1000) including a stator having three phase armature winding (Figure 1 item 1110) and a rotor composed of a field winding (Figure 1 item 1230) for magnetizing a plurality of field magnetic poles and permanent magnets for magnetizing the field magnetic poles by interaction with the field winding (Figure s 4A-4B); an electrical power converter (Figure 1 items 200 and Figure 2) which performs as a rectifier when the rotary machine is operated as a generator and performs as an inverter when the rotary machine is operated as a motor; and a control means (Figure 1 item 100) for controlling the electrical power converter (Figure 1 items 200-Inverter), thereby, the rotary machine is operated as a motor. Refer to column 3 lines 1-47. However, Obayashi does not specifically disclose the control means controlling the electrical power converter so as to restrict the armature current at the time of low speed rotation.

Grassl discloses a motor controller, which includes a controller (Figure 1 item 17) controlling the electrical power converter (Figure 1 item 22) so as to restrict the armature current

at the time of low speed rotation or braking, by applying full excitation to the field winding during deceleration. Refer to column 1 lines 50-55 and column 2 lines 8-68 and column 3 lines 1-11.

It would been obvious to one of ordinary skill at the time of invention to use Obayashi's a drive control apparatus with Grassl's motor controller. The advantage of combining the two would provide a system in case of stop controls the field winding current and not the armature current is applied. Therefore, less expensive switching devices can be applied.

Regarding Claim 3. Grassl discloses field current control means (Figure 1 item 16) is controlled by the control means (Figure 1 item 17) to reduce the field current with increasing rotating speed of the rotary machine. Refer to column 1 lines 50-55 and column 2 lines 8-68 and column 3 lines 1-11.

It would been obvious to one of ordinary skill at the time of invention to use Obayashi's a drive control apparatus with Grassl's motor controller. The advantage of combining the two would provide a system in case of stop controls the field winding current and not the armature current is applied. Therefore, less expensive switching devices can be applied.

Regarding Claims 4-6. Obayashi discloses the rotary machine is operated as a starting motor; the control means (Figure 1 item 100) controls three-phase terminal voltage of the inverter (Figure 1 item 200) in response to the rotating speed (Figure 1 item 1930) of the rotary machine.

It would been obvious to one of ordinary skill at the time of invention to use Obayashi's a drive control apparatus with Grassl's motor controller. The advantage of combining the two would provide a system in case of stop controls the field winding current and not the armature current is applied. Therefore, less expensive switching devices can be applied.

Regarding Claim 7. Regarding claim 7 where the limitation states the armature current at the time of low speed rotation is limited to 300amperes or below. A particular parameter must

first be recognized as a result-effective variable, i.e., a variable, which achieves a recognized result, before the determination of the optimum or workable ranges of, said variable might be characterized as routine experimentation. In re Antonie, 559 F.2d 618, 195 USPQ 6 (CCPA 1977). Claim 7 provides a range from 300 amperes or below which can be considered a routine range. Refer the Chapter 2100 section 2144.05 of the M.P.E.P.

It would been obvious to one of ordinary skill at the time of invention to use Obayashi's a drive control apparatus with Grassl's motor controller. The advantage of combining the two would provide a system in case of stop controls the field winding current and not the armature current is applied. Therefore, less expensive switching devices can be applied.

3. Claims 10 and 11 rejected under 35 U.S.C. 103(a) as being unpatentable over Obayashi et al (6119247) in view of Grassl et al (5014336) as applied to claims 1-9 above, and further in view of Asao et al (JP11-136913).

Obayashi discloses a drive control apparatus, which includes a rotary machine (Figure 1 item 1000) including a stator having three phase armature winding (Figure 1 item 1110) and a rotor composed of a field winding (Figure 1 item 1230) for magnetizing a plurality of field magnetic poles and permanent magnets for magnetizing the field magnetic poles by interaction with the field winding (Figure s 4A-4B); an electrical power converter (Figure 1 items 200 and Figure 2) which performs as a rectifier when the rotary machine is operated as a generator and performs as an inverter when the rotary machine is operated as a motor; and a control means (Figure 1 item 100) for controlling the electrical power converter (Figure 1 items 200-Inverter), thereby, when said rotary machine is operated as a motor. Refer to column 3 lines 1-47. However, Obayashi does not specifically disclose the control means controlling the electrical power converter so as to restrict the armature current at the time of low speed rotation.

Grassl discloses a motor controller, which includes a controller (Figure 1 item 17) controlling the electrical power converter (Figure 1 item 22) so as to restrict the armature current at the time of low speed rotation or braking, by applying full excitation to the field winding during deceleration. Refer to column 1 lines 50-55 and column 2 lines 8-68 and column 3 lines 1-11. However, neither Obayashi nor Grassl discloses each of the adjacent claw-shaped pole pieces is magnetically shorted by a magnetic bridge element at the periphery of the claw-shaped poles, and the permanent magnets are disposed inside of said bridge elements.

Asao discloses a rotor of rotary electric machines, which includes each of the adjacent claw-shaped pole pieces, is magnetically shorted by a magnetic bridge element at the periphery of the claw-shaped poles, and the permanent magnets are disposed inside of said bridge elements. Refer to the abstract and Figures 1-14.

It would been obvious to one of ordinary skill at the time of invention to use Obayashi's a drive control apparatus with Grassl's motor controller and Asao's a rotor of rotary electric machines. The advantage of combining the two would provide a system that would provide a rotor of rotary electric machine, which can prevent breakdown of a magnet, which is arranged between the pawl type magnetic poles in order to reduce the amount of leakage of magnetic flux between the pawl type magnetic poles.

Response to Arguments

4. Applicant's arguments filed June 6, 2005 have been fully considered but they are not persuasive.

The Applicant argues that Obayashi and Grassl do not teach alone or in combination an electrical power converter which performs as a rectifier when the rotary machine is operated as a generator, and performs as an inverter when the rotary machine is operated as a motor; and a

control device controlling said electrical power- converter, thereby, when the rotary machine is operated as a motor, the control device controls the electrical power converter so as to restrict the armature current at the time of low speed rotation. Examiner takes Applicant arguments in full consideration.

Examiner reminds the Applicant that during patent examination, the pending claims must be "given the broadest reasonable interpretation consistent with the specification." > In re Hyatt, 211 F.3d 1367, 1372, 54 USPQ2d 1664, 1667 (Fed. Cir. 2000).< Applicant always has the opportunity to amend the claims during prosecution, and broad interpretation by the examiner reduces the possibility that the claim, once issued, will be interpreted more broadly than is justified. In re Prater, 415 F.2d 1393, 1404-05, 162 USPQ 541, 550-51 (CCPA 1969) (Claim 9 was directed to a process of analyzing data generated by mass spectrographic analysis of a gas. The process comprised selecting the data to be analyzed by subjecting the data to a mathematical manipulation. The examiner made rejections under 35 U.S.C. 101 and 102. In the 35 U.S.C. 102 rejection, the examiner explained that a mental process augmented by pencil and paper markings anticipated the claim. The court agreed that the claim was not limited to using a machine to carry out the process since the claim did not explicitly set forth the machine. The court explained that "reading a claim in light of the specification, to thereby interpret limitations explicitly recited in the claim, is a quite different thing from reading limitations of the specification into a claim,' to thereby narrow the scope of the claim by implicitly adding disclosed limitations which have no express basis in the claim." The court found that applicant was advocating the latter, i.e., the impermissible importation of subject matter from the specification into the claim.). See also In re Morris, 127 F.3d 1048, 1054-55, 44 USPQ2d 1023, 1027-28 (Fed. Cir. 1997) (The court held that the PTO is not required, in the course of prosecution, to interpret claims in applications in the same manner as a court would interpret claims in an infringement suit.

Rather, the "PTO applies to verbiage of the proposed claims the broadest reasonable meaning of the words in their ordinary usage as they would be understood by one of ordinary skill in the art, taking into account whatever enlightenment by way of definitions or otherwise that may be afforded by the written description contained in applicant's specification.").The broadest reasonable interpretation of the claims must also be consistent with the interpretation that those skilled in the art would reach. In re Cortright, 165 F.3d 1353, 1359, 49 USPQ2d 1464, 1468 (Fed. Cir. 1999) (The Board's construction of the claim limitation "restore hair growth" as requiring the hair to be returned to its original state was held to be an interpretation of the limitation. The court held that, consistent with applicant's disclosure and the disclosure of three patents from analogous arts using the same phrase to require only some increase in hair growth, one of ordinary skill would construe "restore hair growth" to mean that the claimed method increases the amount of hair grown on the scalp, but does not necessarily produce a full head of hair.).

Therefore in referring to the Figure 1 if the Applicant drawings and specification where it states and defines," The instruction from the control means not shown is given to a converter (4) and a field current control means and controlling the both, the generator-motor (1) is operated as the starting motor or the charging generator." Obayashi discloses a drive control apparatus, which includes a rotary machine including a stator having three phase armature winding (Figure 1 item 1110) and a rotor composed of a field winding (Figure 1 item 1230) for magnetizing a plurality of field magnetic poles and permanent magnets for magnetizing the field magnetic poles by interaction with the field winding (Figure s 4A-4B); an electrical power converter (Figure 1 items 200 and Figure 2) which performs as a rectifier when the rotary machine is operated as a generator and performs as an inverter when the rotary machine is operated as a motor; and a control means (Figure 1 item 100) for controlling the electrical power converter (Figure 1 items

200-Inverter, referring to the drawing and the defined specification on pages 5-6), thereby, when the rotary machine is operated as a motor. Further, Grassl discloses a motor controller, which includes a controller (Figure 1 item 28) controlling the electrical power converter (Figure 1 item 30) so as to restrict the armature current at the time of low speed rotation or braking, by applying full excitation to the field winding during deceleration. In both cases, Obayashi and Grassl disclose a controller for controller both the field and armature as defined in the drawings and specification. Again, the Examiner takes the claims in their broadest presentation. Examiner suggests amending the claims to expedite prosecution of the case.

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tyrone W. Smith whose telephone number is 571-272-2075. The examiner can normally be reached on weekdays from 8:30am to 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Martin, can be reached on 571-272-2800 ext. 37. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Tyrone Smith
Patent Examiner

Art Unit 2837